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A SUCCESSFUL CASE OF TETANUS
NEONATORUM TREATED WITH
BROMIDE OF POTASSIUM.

✓ BY

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NEW YORK,

ATTENDING PHYSICIAN TO THE NORTHWESTERN DISPENSARY IN THE DEPARTMENT
OF THE DISEASES OF CHILDREN.

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Attending Physician to the Northwestern Dispensary in the Department of the Diseases of Children.

RECOVERY in cases of tetanus of the newly born is rare. Bad as the prognosis of this disease is in adult life, it is even worse in the young child. The most frequent cause of death at all ages being exhaustion, it is easy to see why the child of a few days readily succumbs.

The earlier writers upon tetanus neonatorum held it to be absolutely fatal. More recent ones hold out but little encouragement from their experience in its management. Thus Vogel lost all of his cases. Of twenty-four observed by Finkh none survived. In Stockholm, where the disease is very common, Cederchjoeld saw forty-four cases with but two recoveries. Every one of one hundred and eighty-five cases occurring on the Island of Heimacy about the beginning of this century died. Dr. J. Lewis Smith in his excellent article on this subject in the last edition of his Diseases of Children states that only one instance of recovery has come under his observation ; though he mentions eight cases collected from various sources.

Among the negro children at the South the disease was formerly very prevalent, and Nailor¹ says that it was so uniformly fatal that a physician was never called.

The following case is published, not with the idea of proposing bromide of potassium as a specific for the disease, but as furnishing an instance of very prompt

¹ New Orleans Medical Journal, 1846.

and very decided improvement under its use, and also illustrating the remarkable tolerance of this drug in young infants.

Katie M., aged seventeen days, was brought to the dispensary by the mother September 27, 1882. She gave the following history: The child was born at full term, the labor being very easy, and of only two or three hours' duration. The cord fell off on the fourth day, but the umbilicus has not yet quite healed. There had been no haemorrhage from this source. Except this condition of the umbilicus, and quite a severe eczema which had developed about the genitals and inner surfaces of the thighs, nothing abnormal had been observed about the child until it was twelve days old. Then the mother noticed that it would occasionally straighten back while nursing and become very rigid for a few moments. Sometimes it would get black in the face at these attacks. Soon after it was seen to open the mouth with difficulty and not to the full extent. Since that time these paroxysms had become gradually more frequent and more severe, and even between them the body was very stiff. Nursing had become impossible, and the child had been fed with a spoon for four days. Urine and bowels were reported regular. There had been no fever noticed. The hygienic surroundings, it was afterwards learned, were about as unfavorable as they could well be in a tenement house, though the child showed no evidence of neglect in its person.

On examination I found a tolerably well-nourished child. It lay upon the back, the body being slightly arched in opisthotonus. The upper extremities could be moved somewhat, though the fingers were tightly flexed and the thumbs held between the first and middle fingers on each side. The lower extremities were almost completely extended and perfectly rigid, no motion being allowed at hips or knees. The skin was loose and flabby, and the hard contracted muscles beneath gave the limbs a peculiar feeling. There was an

eczema over thighs, genitals, and lower part of abdomen, for the most part dry, but in places still exuding moisture. The whole integument of this region was greatly reddened. The umbilicus itself was a little pouting, and presented a small excoriated surface, hardly amounting to an ulcer. There was no sign of suppuration. The face presented a singular aspect; the muscles of the jaws stood out rigidly. The jaws could be separated barely enough to admit the little finger between the gums. The eyes were closed and lips pouting.

The child cried with a low whine much of the time. Every few minutes a paroxysm would come on; then the muscles of the face became more rigid, the respiration ceased for the time, the face was cyanotic, and the extremities even more rigid than before. This passed off in a few moments, and nothing but the tonic rigidity remained, but this was enough to enable the child to be balanced upon the hand like a piece of wood. Rectal temperature $99\frac{1}{4}$ ° F.

Ordered ten drops of brandy every two hours, and potass. bromid., four grains, every three hours; the umbilicus to be dressed with simple cerate.

September 28th. By mistake double the dose of bromide was given each time, but as the child seems to have suffered no bad effects the larger doses are ordered to be continued. The breast milk, given with a spoon, was taken well and retained, as was also the brandy. Condition about the same as yesterday.

September 29th. There is decided improvement in the symptoms. The medicine has been given regularly night and day. There is not so much rigidity of the lower extremities, and the mouth can be opened a little better. The cry is stronger. The child nursed three or four times during the past night, this being the first time for a week. The bowels are a little loose, and vomiting took place once to-day. The child sleeps most of the time. Rectal temperature $99\frac{3}{4}$ ° F. The treatment is continued. The umbilicus has been dressed with ungt. zinc. oxidi. It is healing.

September 30th. Nurses so well that hand feeding is discontinued. Has been more restless and worrying a good deal to-day, but the paroxysms are not so frequent. Temperature $99\frac{1}{4}$ ° F.

October 2d. The umbilicus has about healed. Has slept most of the past twenty-four hours, and during this time has been almost completely relaxed. The rigidity has almost gone. Temperature $101\frac{1}{2}$ ° F. The bromide is reduced to five grains every three hours. Brandy continued as before.

October 3d. Only a few mild paroxysms during the night, but high fever is reported to have been present. Temperature $100\frac{1}{2}$ ° F.

October 4th. The child is not quite so well to-day. The paroxysms have become more frequent and more severe than for several days. It has scarcely slept at all. Quite a severe paroxysm is witnessed to-day; this is almost as marked as at any time during the disease. Relaxation in the interval seems complete, however. Bromide again increased to first doses of eight grains every three hours.

October 5th. A few mild paroxysms between two and four this morning, otherwise quiet.

October 18th. No paroxysms have occurred since the 5th instant. The bromide has been gradually diminished, and is now stopped altogether. The child is gaining flesh, and the eczema is very much alleviated. A small hernia has formed at the umbilicus, but otherwise everything here is normal.

Discharged cured.

February 10, 1883. I saw the child to-day, and learned there had been no further manifestations of the disease since it was dismissed from treatment.

Remarks. I have before me notes of fifteen other cases of recovery from tetanus neonatorum, reports of which I have found scattered through medical literature. The following are the methods of treatment so far as they have been given: "Castor oil and local sedatives;" quinine and morphia endermically, nothing

by the mouth; *Cannabis Indica* in full doses, that is, one half ounce of the tincture per diem; ipecac and quinine in small and frequent doses; atropia hypodermically; sulphate of zinc in five-grain doses every three hours, and "a little opium;" chloral in doses of one grain or two grains four or five times a day; postural treatment alone, no medication.

From this array of facts it is evident that we must not be too ready to draw conclusions with regard to the action of drugs in this disease. Hasty conclusions from insufficient data are among the most serious obstacles to progress in therapeutics. We Americans are especially open to this charge.

It seems to us that we may divide the cases of tetanus into three groups:—

(1.) Those acute severe cases which prove fatal in from one to three days in spite of all treatment. This class includes, unfortunately, the great majority of the cases.

(2.) The very mild ones, which tend to a spontaneous recovery. In this class, it would seem from the histories, that several of the fifteen cases referred to belong.

(3.) Those which are less acute than the first series, but still severe, in which recovery seems to be due to the treatment employed.

We should class our own case among the last mentioned.

Up to the beginning of the treatment the case had been growing steadily worse. Eight grains of the bromide were taken every three hours, night and day, for five days. Inside of thirty-six hours there was such improvement that the child took the breast for the first time in a week. At the end of five days, when the child was so much better that the dose was reduced, a decided exacerbation in the symptoms followed, which lasted until the larger doses were resumed.

The brandy, no doubt, contributed to the favorable

result, and is to be advised as an accessory to all modes of treatment.

The view advocated by Dr. Marion Sims in 1846, that this form of tetanus is frequently, if not always, due to pressure from displaced cranial bones, has not been sustained by subsequent experience. Latterly almost all forms of treatment have been abandoned except that by motor depressants of the spinal cord. Among these drugs chloral undoubtedly holds the first place in the minds of the majority of observers. Any drug to be of service must be pushed to its full physiological effect. Since this principle has been appreciated recoveries in tetanus have multiplied quite rapidly.

That the bromides are safer than chloral needs no argument here. This case shows that they are tolerated in young infants to a remarkable degree. I have been unable to find that they have ever been thoroughly tried in tetanus neonatorum in the doses indicated.

This case is submitted with the hope that others may be led to test the drug in future cases to see whether after all we have not in the bromide of potassium a remedy fully as efficient as chloral, and much safer.

